

REMARKS

This responds to the Office Action mailed on April 11, 2005.

Claims 1, 36, and 45-47 have been amended. No claims have been canceled or added.

As a result, claims 1-10 and 36-47 remain pending in this application.

For the convenience of the Examiner, Applicant's remarks concerning the claims will be presented in the same order in which the Examiner presented them in the Office Action.

Amendments to Claims 1, 36, and 45-47

Claims 1, 36, and 45-47 have been amended. No new matter has been introduced.

Claim 1 has been amended by adding "comprising an inductive element" to the preamble. Support for this amendment may be found, for example, in the specification at page 5, line 5.

Claim 36 has been amended by adding "comprising an inductive element" to the preamble; and by adding "wherein the first and second dielectric layers are formed simultaneously; and wherein the first and second conductive layers are formed simultaneously". Support for these amendments may be found, for example, in the specification at page 9, lines 27-28, and at page 10, lines 4-5.

Claim 45 has been amended by adding "comprising an inductive element" to the preamble; by deleting "wherein, in forming the first conductive layer, the first conductive layer comprises magnetic material"; and by adding "forming a magnetic layer comprising magnetic material over the first conductive layer, the magnetic layer also varying in the Z-dimension". Support for these amendments may be found, for example, in FIG. 1 and in claim 18 of U.S. Pat. No. 6,452,247, the case upon which priority of the present application is claimed.

Claims 46 and 47 have been amended by substituting "magnetic" for "first conductive".

Objection to Claims 36 and 45-47 under 37 C.F.R. §1.75

Claims 36 and 45-47 were objected to under 37 C.F.R. 1.75 as being a substantial duplicate of claims 5 and 8-10, respectively.

Independent claims 36 and 45 have been amended. Therefore, Applicants respectfully request the Examiner to withdraw the objection to claims 36 and 47-49 under 37 C.F.R. 1.75.

**Rejection of Claims 1, 2, 4, 5, 7, 36, 37, 39, and 41
under 35 U.S.C. §102(e) as Anticipated by Fillion**

Claims 1, 2, 4, 5, 7, 36, 37, 39, and 41 were rejected under 35 U.S.C. §102(e) as being anticipated Fillion et al. (U.S. 6,239,482). Applicant does not admit that Fillion is prior art and reserves the right to swear behind Fillion as provided for under 37 C.F.R. §1.131.

Fillion appears to disclose an integrated circuit package having a pad coupling structure, as shown in FIG. 3, in which a conductor 28 varies in a vertical dimension. Fillion discloses embedding a discrete passive device, such as an inductor, in the package (see col. 5, lines 46-52). However, no disclosure could be found in Fillion pertaining to fabrication of an inductor structure on or within an integrated circuit.

The rule under 35 U.S.C. §102 is well settled that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2D 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). MPEP §2131.

Regarding independent claims 1, 36, and 45, as amended, Fillion fails to disclose all of the structural elements recited. For example, nothing could be found in Fillion disclosing an integrated circuit comprising an inductive element fabricated by the operations recited in independent claims 1, 36, and 45.

For the above reasons, independent claims 1, 36, and 45 should be found to be allowable over Fillion, and Applicant respectfully requests that the rejection of claims 1, 36, and 45 under 35 U.S.C. §102(e) as anticipated by Fillion be withdrawn.

Those claims that depend, directly or indirectly, from claims 1, 36, and 45 and incorporate all of the limitations therein are also asserted to be allowable for the reasons presented above.

Rejection of Claims 3 and 38
under 35 U.S.C. §103(a) as Unpatentable
over Fillion in view of Wojnarowski

Claims 3 and 38 were rejected under 35 U.S.C. §103(a) as being unpatentable over Fillion et al. and further in view of Wojnarowski et al. (U.S. 5,331,203).

Fillion was discussed above.

Wojnarowski discloses a high density interconnect structure (see Abstract) having a curved dielectric layer 32 (FIG. 1). However, no disclosure could be found in Wojnarowski pertaining to an inductor or to the fabrication of an inductor according to the operations recited in Applicant's claims.

To establish a *prima facie* case of obviousness under 35 U.S.C. §103, the prior art reference (or references when combined) must teach or suggest every limitation of the claim. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA, 1974). MPEP §2143.

As mentioned above, regarding the rejection of claims 1, 2, 4, 5, 7, 36, 37, 39, and 41 under 35 U.S.C. §102(e), Fillion fails to teach or suggest all of the claim limitations present in independent claims 1, 36, and 45, so a *prima facie* case of obviousness has not been established. Likewise, regarding independent claims 1, 36, and 45, Wojnarowski does not appear to disclose all of the claim limitations. Nor does the combination of Fillion and Wojnarowski appear to disclose all of the claim limitations of independent claims 1, 36, and 45.

For the above reasons, independent claims 1, 36, and 45 should be found to be allowable over any combination of Fillion and Wojnarowski. Accordingly, all of the claims that depend, directly or indirectly, from independent claims 1, 36, and 45 should also be allowable, and Applicant respectfully requests that the rejection of claims 3 and 38 under 35 U.S.C. §103(a) as being unpatentable over Fillion in view of Wojnarowski should be withdrawn.

Rejection of Claims 6 and 40
under 35 U.S.C. §103(a) as Unpatentable
over Fillion in view of Liou

Claims 6 and 40 were also rejected under 35 U.S.C. §103(a) as being unpatentable over Fillion et al. and further in view of Liou (U.S. 6,037,649).

Fillion was discussed above.

Liou appears to disclose a three-dimensional inductor structure in integrated circuit technology (see Abstract). The inductor structure comprises N coils, as shown in FIG. 2A, for example, and as described in the Abstract.

To establish a *prima facie* case of obviousness under 35 U.S.C. §103, the prior art reference (or references when combined) must teach or suggest every limitation of the claim. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA, 1974). MPEP §2143.

As mentioned above, regarding the rejection of claims 1, 2, 4, 5, 7, 36, 37, 39, and 41 under 35 U.S.C. §102(e), Fillion fails to teach or suggest all of the claim limitations present in independent claims 1, 36, and 45, so a *prima facie* case of obviousness has not been established. Likewise, regarding independent claims 1, 36, and 45, Liou does not appear to disclose all of the claim limitations. For example, Liou fails to disclose a first conductive layer being arranged in a substantially straight line along the X-dimension, and the first conductive layer comprising upper segments and lower segments, the upper segments being longer than the lower segments. Nor does the combination of Fillion and Liou appear to disclose all of the claim limitations of independent claims 1, 36, and 45.

For the above reasons, independent claims 1, 36, and 45 should be found to be allowable over any combination of Fillion and Liou. Accordingly, all of the claims that depend, directly or indirectly, from independent claims 1, 36, and 45 should also be allowable, and Applicant respectfully requests that the rejection of claims 6 and 40 under 35 U.S.C. §103(a) as being unpatentable over Fillion in view of Liou should be withdrawn.

Rejection of Claims 8-10 and 42-47
under 35 U.S.C. §103(a) as Unpatentable
over Fillion in view of Ahn

Claims 8-10 and 42-47 were also rejected under 35 U.S.C. §103(a) as being unpatentable over Fillion et al. and further in view of Ahn et al. (U.S. 2001/0041401).

Fillion was discussed above.

Ahn appears to disclose an inductor formed of magnetic material on a semiconductor substrate (see Abstract). The inductor comprises a plurality of parallel open conductive patterns connected by at least one conductive segment (see claim 1).

To establish a *prima facie* case of obviousness under 35 U.S.C. §103, the prior art reference (or references when combined) must teach or suggest every limitation of the claim. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA, 1974). MPEP §2143.

As mentioned above, regarding the rejection of claims 1, 2, 4, 5, 7, 36, 37, 39, and 41 under 35 U.S.C. §102(e), Fillion fails to teach or suggest all of the claim limitations present in independent claims 1, 36, and 45, so a *prima facie* case of obviousness has not been established. Likewise, regarding independent claims 1, 36, and 45, Ahn does not appear to disclose all of the claim limitations. For example, Ahn fails to disclose a first conductive layer being arranged in a substantially straight line along the X-dimension, and the first conductive layer comprising upper segments and lower segments, the upper segments being longer than the lower segments. Nor does the combination of Fillion and Ahn appear to disclose all of the claim limitations of independent claims 1, 36, and 45.

For the above reasons, independent claims 1, 36, and 45 should be found to be allowable over any combination of Fillion and Ahn. Accordingly, all of the claims that depend, directly or indirectly, from independent claims 1, 36, and 45 should also be allowable, and Applicant respectfully requests that the rejection of claims 8-10 and 42-47 under 35 U.S.C. §103(a) as being unpatentable over Fillion in view of Ahn should be withdrawn.

Additional Elements and Limitations

Applicant considers additional elements and limitations of claims 1-10 and 36-47 to further distinguish over the cited references, and Applicant reserves the right to present arguments to this effect at a later date.

Conclusion

Applicant respectfully submits that claims 8-10 and 36-47 are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney, Walter W. Nielsen (located in Phoenix, Arizona) at (602) 298-8920, or the below-signed attorney (located in Minneapolis, Minnesota) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account
No. 19-0743.

Respectfully submitted,

DONALD S. GARDNER

By his Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
Attorneys for Intel Corporation
P.O. Box 2938
Minneapolis, Minnesota 55402
(612) 349-9592

Date Sept. 12, 2005

By Ann M. McCrackin
Ann M. McCrackin
Reg. No. 42,858

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 12th day of September, 2005.

John D. Gustav-Wraithals

Name

John D. Gustav-Wraithals
Signature